REMARKS

Applicants respectfully request reconsideration of the rejection of the claims in view of the remarks set forth below. Claims 1-5 remain in the application. Claims 1-3 and 5 were previously presented. Claim 4 remains unchanged.

35 U.S.C. §103

Claims 1-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. (US 2003/0053412) in view of Shue et al. (US 5,764,858). The applicants respectfully traverse the rejection and propose that, for at least the reasons discussed below, claims 1-5 are patentably distinguishable over the teachings of the suggested combination of references and submit the following arguments for consideration by the examiner.

Applicant's claim 1 recites a "*method for selecting a transmission channel from several transmission channels of a receiver of Orthogonal Frequency Division Multiplexing (OFDM) radio signals with antenna diversity, with a view to favouring the transmission channel delivering a signal with the lowest binary error rate, the method comprising an estimation of the binary error rate for each transmission channel by feeding a neural network with data representative of a frequency response of the transmission channel and selecting an antenna based on the output of the neural network.*"

Yoshida appears to disclose a system comprising a receiving apparatus provided on a mobile body with means for detecting moving velocity. According to the velocity of the mobile body, antenna combination is used to minimize Doppler spread for low velocity and antenna selection is used to minimize Doppler spread for high velocity. In selection mode, selection is based on reception power and Doppler spread indicators in order to select the best signal. As noted by the Examiner, Yoshida does not disclose nor suggest an estimation of the binary error rate for each transmission channel by feeding a neural network with data representative of a frequency response of the transmission channel and selecting

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an antenna based on the output of the neural network. Moreover, the applicants note that the indicator used for selecting the antenna transmitting the signal with the lowest binary error rate in applicants' claim 1, i.e. the bit error rate, is a more efficient indicator than the ones used in Yoshida, i.e. reception power and Doppler spread.

Sheu has been cited to cure the deficiencies of Yoshida, however Sheu fails to do so. Indeed, Sheu discloses a signal processing system based on a neural network, which implements an optimization in the sense of maximum-likelihood. One single input signal gets in into a receiver before being separated into base band, i.e. into an in-phase signal and a quadrature-phased signal to be processed by the neural network in order to retrieve the transmitted signal by using a channel response estimated by a dedicated block.

Applicants' invention as claimed in claim 1 discloses a method for selecting a transmission channel by using, for each antenna, a channel response estimated by a dedicated block in order to feed a neural network, which is used for estimating an indicator, i.e. the bit error rate, which is more efficient than the ones used in Yoshida, i.e. the reception power and the Doppler spread, for selecting the antenna transmitting the best signal. The neural network disclosed in Sheu is not used for estimating an indicator but rather Sheu neural network is used for processing the signal. In contrast, the neural network as claimed in claim 1 is used for deriving a criteria to be used for selecting an antenna and not for directly processing the signal.

It is therefore, respectfully submitted that Sheu fails to cure the deficiencies of Yoshida and that the cited combination of Yoshida and/or Sheu, taken singly or together, fails to disclose or suggest at least the *"an estimation of the binary error rate for each transmission channel by feeding a neural network with data representative of a frequency response of the transmission channel and selecting an antenna based on the output of the neural network"* element of claim 1. In

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other words, one skilled in the art with knowledge of the cited combination would not arrive at the present invention as claimed in claim 1.

In view of the above, applicants submit that none of the cited references, either singly or in combination, teach or suggest each and every limitation of claim 1. As a result of the preceding arguments, it is respectfully proposed that the rejection for obviousness under 35 U.S.C. § 103(a) is overcome and notice to that effect is earnestly solicited.

Dependent claims 2-4, being dependent on and further limiting independent claim 1, should be allowable for that reason, as well as for the additional recitations that they contain. Therefore, it is respectfully proposed that claims 2-4 now stand in condition for allowance and notice to that effect is earnestly solicited.

Independent claim 5 includes elements similar to the elements of independent claim 1 and should therefore be allowable for the same reasons discussed above as well as for the additional recitations contained therein. Therefore, it is respectfully proposed that the rejection of independent claim 5 under 35 U.S.C. § 103(a) is overcome in accordance with the above remarks and notice to that effect is earnestly solicited.

Conclusion

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicants' attorney at (818) 480-5223, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No additional fee, other than the fee discussed above, is believed due in regard to the present amendment. However, if an additional fee is due, please charge the fee to Deposit Account 07-0832.

Respectfully submitted,
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March 30, 2009

CERTIFICATE OF MAILING

I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

3/30/09

Date

Vincent E. Duffy